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(52) UK CL (Edition S)
F4R RFR R257 R364 R376

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WPI abstract 1993-168401 & DE004137323A
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ONLINE: WPI,EPODOC,JAPIO

(54) Abstract Title
Solar powered cycle lights

(57) Front and rear cycle lights are powered by batteries 3 (and 21, fig 3) rechargeable by solar cells 4 (and 18 fig 3) and have integral electronic hooters 14 (and 17, fig3) operated by switches on the handlebars. A liquid crystal display giving the time,date, temperature, forward wind speed and battery condition may also be provided.

FIG 2

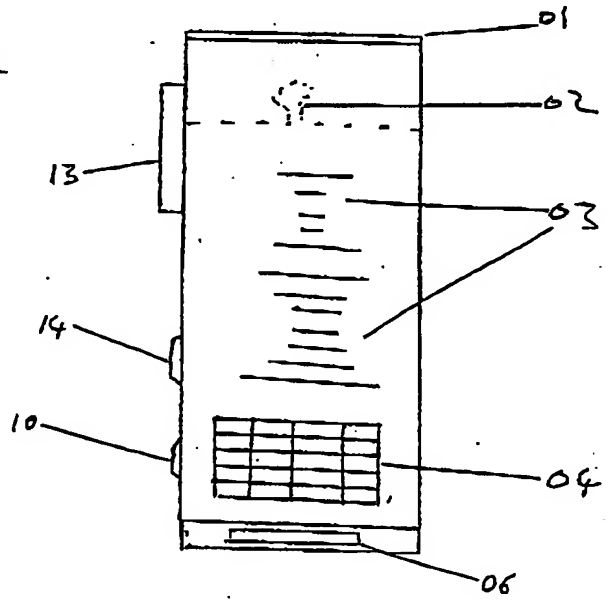

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FIG 1

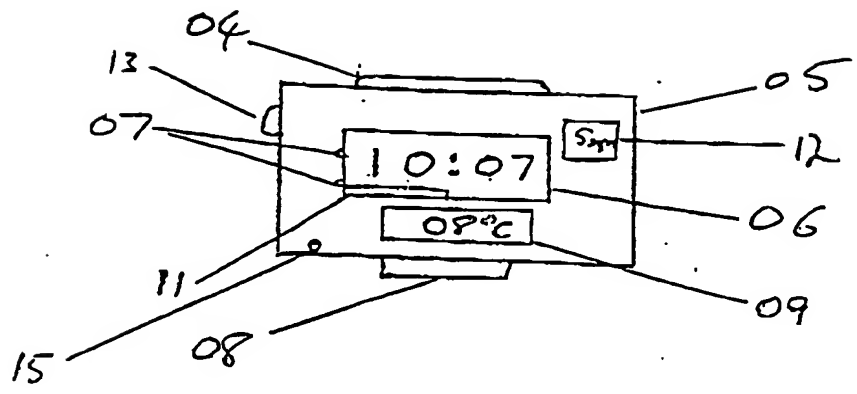
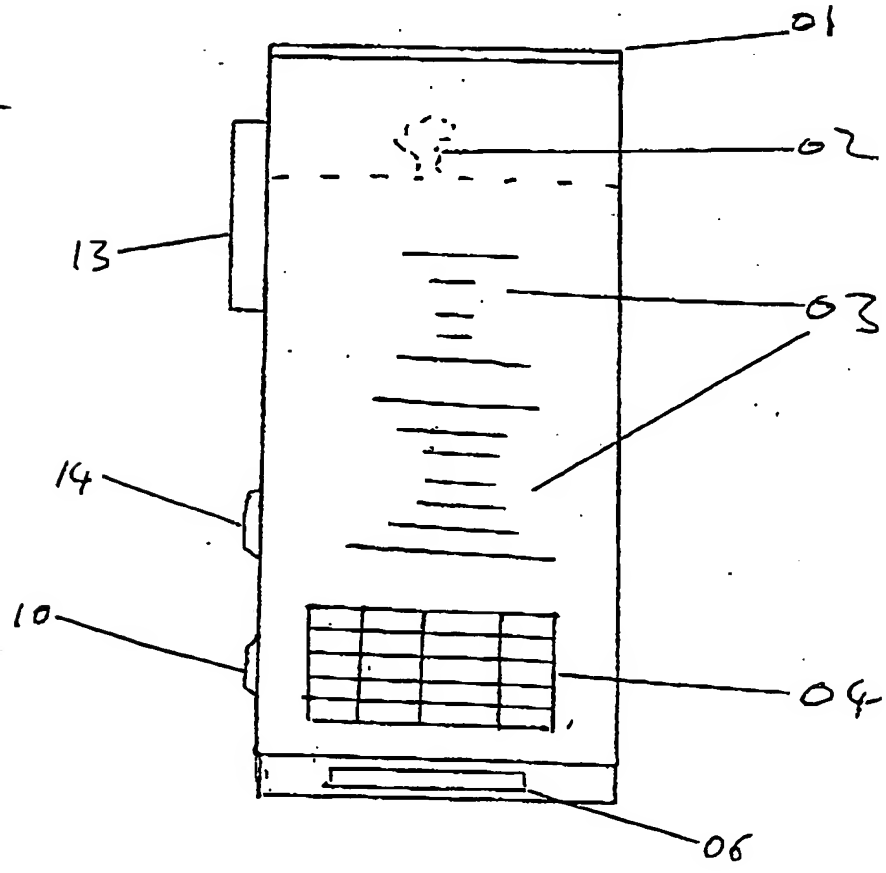


FIG 2



Claims

1. A front and rear cycle light set with solar rechargeable batteries (hardly ever requiring removal) including an electronic hooter audiable for a distance of some 40 metres , a liquid crystal display indicating state of battery charge , time , date , temperature and forward air speed

2. A front and rear cycle light set as in claim 1 wherein both units are able to be mounted onto a cycle frame by the clips attached to the units

3. A front and rear cycle light set as set out in claim 1 and 2 wherein the units may be used as rechargers for rechargeable batteries which might then be used in other equipment

4. A front and rear cycle light set substatially as described herein with reference to figures 1 - 3 of the accompanying drawing

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Application No: GB 9921409.0 **Examiner:** Colin Clarke
Claims searched: 1-4 **Date of search:** 1 December 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): F4R (RFR)

Int Cl (Ed.6): B62J 3/00,6/00

Other: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
Y	GB 2266418 A SHIMANO see claims 1-5	1-4
Y	GB 2023321 A CAROLINA ENTERPRISES see fig 1	1-4
Y	WO 93/15938 A CYCLERT see claims 1 & 3 and fig 1	1-4
Y	US 5138534 WU see column 1 lines 7-27	1-4
Y	Derwent Abstract 1999-396254 & DE19842841A GEILICH	1-4
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X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.
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A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

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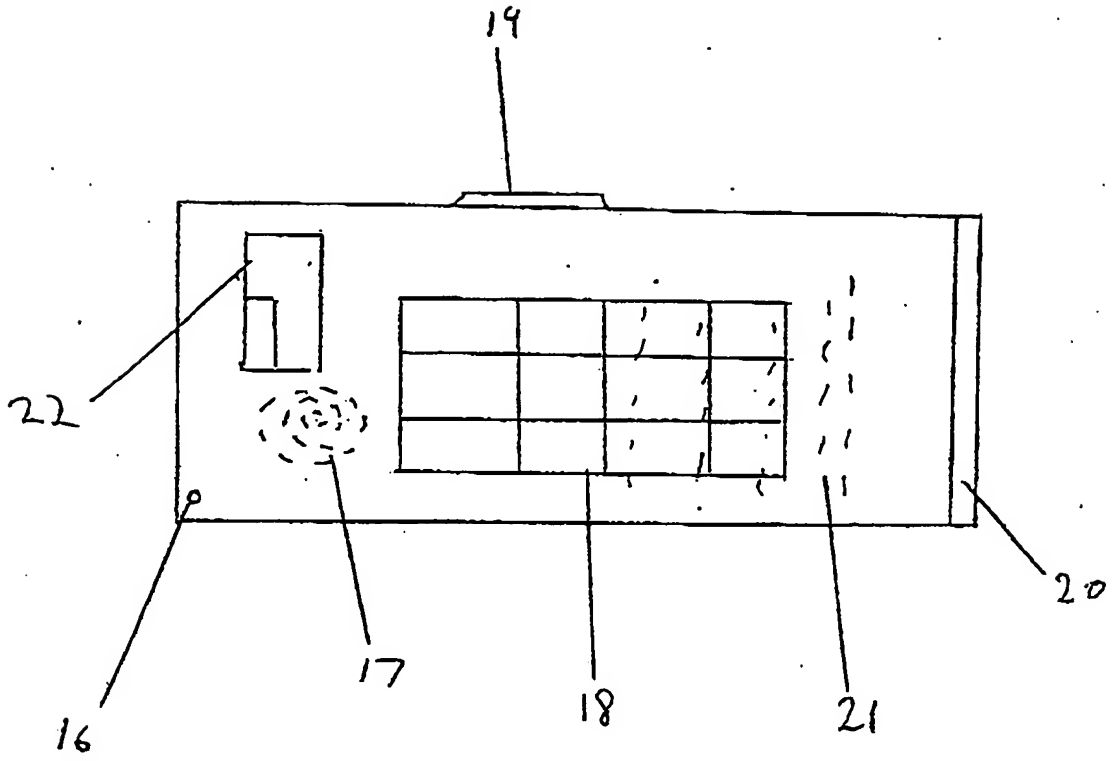
Category	Identity of document and relevant passage	Relevant to claims
Y	ARGOS catalogue Autumn 1996 page 295	1

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

FIG 3



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Front and rear solar recharge cycle light set with hooters

This invention relates to a front and rear cycle light set with other features.

Existing cycle lights either use disposable batteries or rechargeable batteries which need to be removed from the lights and recharged in some other unit . These cycle lights will have special electronic circuits which will ensure that they are kept charged by using electrical energy gathered from the attached solar cells during daylight hours . In more northern latitudes provision may be made for attaching more solar cells to ensure that the charge is kept up : In addition both lights house electronic hooters activated by separate switches on the handle bars. The front light in particular contains many other features including a Liquid Crystal Display unit giving time or date and / or air temperature / and / or forward wind speed , together with a battery charge condition indicator (also a feature of the rear light)

Figure 1 Shows the rear of the front light with the instruments that it also houses

Figure 2 Shows the top of the light showing the batteries solar cells , wind speed detector and bulb

Figure 3 Shows the rear light unit , solar cells , battery condition indicator , hooter switch etc